

REMARKS

Claims 1, 2, and 4-19 are pending in this application.

At the outset, Applicants again wish to thank Examiner Kuhar and Examiner Bos for the helpful and courteous discussion with their undersigned Representative on July 23, 2003. The context of this discussion is reflected in the amendments and comments set forth herein.

The presently claimed invention provides, in part, “a thermal treatment of sodium percarbonate *immediately following* a drying step subsequent to a production process of sodium percarbonate”. In the Office Action the Examiner appears to dismiss the temporal limitation of “immediately following.” However, there is absolutely no basis for dismissing a *limitation* of the claims in this manner. Specifically, Applicants note that this limitation is neither disclosed, nor suggested by any of the art of record. In fact, Nakagawa ‘977, JP ‘906, Brichard ‘669, and JP ‘103 each appear to begin with sodium percarbonate that has already been produced. Therefore, none of these references disclose or suggest the method by which it is obtained. Accordingly, based on these references, it is likely that the sodium percarbonate used has been stored for some duration of time and, as such, the sodium percarbonate is plagued with the very problems the present invention seeks to solve. Accordingly, Applicants respectfully request that the Office examine the presently claimed invention in view of each limitation recited in the claims. Reconsideration is respectfully requested in view of these amendments and comments.

The rejection of Claims 1, 5-11, and 14-20 under 35 U.S.C. §103(a) over Nakagawa ‘977 is obviated in part by amendment and traversed in part.

Nakagawa '977 discloses a process for the mass production of a foamable sodium percarbonate (column 1, lines 5-6). As noted by the Examiner, at column 1, lines 26-62, Nakagawa '977 disclose a thermal treatment step that is conducted at 110° - 135°C for 5 to 60 minutes.

Based on this disclosure of Nakagawa '977 there would be no motivation to perform a thermal treatment step for a time of at least 2 minutes at a temperature from 80 to 95°C. Applicants note that the Examiner appears to recognize this deficiency in Nakagawa '977 by the fact that original Claim 3 (limiting the temperature to 80 to 95°C) was not rejected.

Moreover, Applicants note that Nakagawa '977 provides no disclosure or suggestion to perform a thermal treatment step *immediately following* a drying step as presently set forth in Claims 1 and 11, much less the advantages flowing therefrom. The presently claimed relationship between the thermal treatment and the drying step results in an improved product quality (i.e., reduction of the TAM-value), while maintaining the active oxygen content virtually constant (see Claim 1). Reference to the Examples appearing on pages 11-12 of the present specification provide the following results appearing in Table 1:

Example No.	T (°C)	Oa (%)	Weight Loss (%) (IR Balance)	TAM Value (μW/g)
Start		13.7	1.3	10.6
1	80	13.7	1.0	9.3
2	85	13.7	0.8	8.1
3	90	13.6	1.0	7.3
4	95	13.5	1.1	6.3
5	100	13.0	1.5	4.8

These results obtained by the inventive process where the thermal treatment step immediately follows the drying step clearly reveal that the desired reduction of the TAM-value and constant active oxygen content may be achieved (see Examples 1-4). In contrast, when the starting material, having a high TAM-value, is thermally treated at a temperature that exceeds the claimed range (see Example 5; $T = 100\text{ }^{\circ}\text{C}$), a low TAM-value is obtained; however this reduction in TAM-value is accompanied with an undesirable reduction in active oxygen content. Such a result would certainly not be obvious in view of the disclosure of Nakagawa '977.

Further, inspection of the Examples of Nakagawa '977 further underscores the differences between this disclosure and the present invention. In Example 1, Nakagawa '977 use a sodium percarbonate sample having an active oxygen content (O_a = available oxygen) of 13.9% (see column 2, line 42). When the method of Nakagawa '977 is utilized the results are set forth in Table 1 appearing in columns 3-4 of Nakagawa '977. In contrast to the inventive method the method of Nakagawa '977 results in a treated product having significantly reduced active oxygen content and molecular oxygen is evolved in water. Specifically, the O_a value is reduced from 13.9% in the starting sodium percarbonate to a value ranging from 6.3 to 11.1% in the final treated product.

Therefore, Applicants submit that based on the disclosure of Nakagawa '977 the skilled artisan would have no reasonable motivation to arrive at the presently claimed method, much less have a reasonable expectation of the advantages obtained thereby.

Based on these deficiencies in the disclosure of Nakagawa '977, Applicants request withdrawal of this ground of rejection.

The rejection of Claims 1-7, 11-15, and 19-20 under 35 U.S.C. §103(a) over JP '906 is obviated in part by amendment and traversed in part.

JP '906 discloses a foam generated bleach detergent composition containing a heat-treated sodium percarbonate. As disclosed by JP '906 the sodium percarbonate is heat-treated at a temperature ranging from 70° (for 10-120 minutes) to 110°C (for 10-30 minutes) to “dehydrate” the sodium percarbonate. As such, the sodium percarbonate utilized in the method of JP '906 was clearly not dried prior to the thermal treatment as it still contained crystal water.

Moreover, JP '906 provides no disclosure or suggestion to perform a thermal treatment step *immediately following* a drying step as presently set forth in Claims 1 and 11, much less the advantages flowing therefrom (see partial translation enclosed herewith). The advantageous results obtained by the inventive method are presented in Table 1 on page 12 of the present specification and are summarized herein above. Specifically, the presently claimed relationship between the thermal treatment and the drying step results in an improved product quality (i.e., reduction of the TAM-value), while maintaining the active oxygen content virtually constant.

Moreover, Applicants note that JP '906 provides no reasonable expectation of any results obtained. Specifically, JP '906 only discloses that the active oxygen stability of mixtures consisting of sodium percarbonate (20 wt%), sodium bicarbonate, and an organic acid is improved (see Abstract). Therefore, not only is JP '906 silent with respect to the inventive process, but it is also silent with respect to any advantageous properties obtained for the sodium percarbonate obtained thereby.

Citing In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974), MPEP §2143.03 states: “To establish a prima facie obviousness of a claimed invention, all the claim

limitations must be taught or suggested by the prior art.” Applicants submit that the failure to disclose or suggest the claimed relationship between the drying and thermal treatment steps would necessarily make the disclosure of JP ‘906 fails to meet this requirement. Accordingly, the present invention would not be obvious in view of JP ‘906.

Withdrawal of this ground of rejection is requested.

The rejection of Claims 1-20 under 35 U.S.C. §103(a) over Brichard ‘669 is obviated in part by amendment and traversed in part.

Brichard ‘669 discloses a process for the stabilization of particles containing peroxygen compounds by coating using coating agents that are insoluble in water and melt at low temperatures, such as waxes and bleaching compositions containing particles stabilized according to this process (column 1, lines 9-14).

Applicants note that Brichard ‘669 provides no disclosure or suggestion to perform a thermal treatment step *immediately following* a drying step as presently set forth in Claims 1 and 11, much less the advantages flowing therefrom. The advantageous results obtained by the inventive method are presented in Table 1 on page 12 of the present specification and are summarized herein above. Specifically, the presently claimed relationship between the thermal treatment and the drying step results in an improved product quality (i.e., reduction of the TAM-value), while maintaining the active oxygen content virtually constant.

Citing In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974), MPEP §2143.03 states: “To establish a prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art.” Applicants submit that the failure to disclose or suggest the claimed relationship between the drying and thermal treatment steps

would necessarily make the disclosure of Brichard '669 fails to meet this requirement.

Accordingly, the present invention would not be obvious in view of Brichard '669.

Applicants request withdrawal of this ground of rejection.

The rejection of Claims 1, 2, 5-12, and 14-20 under 35 U.S.C. §103(a) over JP '103 is obviated in part by amendment and traversed in part.

Applicants note that for much of the same reasons as Nakagawa '977, JP '103 is similarly deficient regarding satisfaction of the requirements to establish a *prima facie* obviousness case. First, JP '103 does not disclose or suggest the relationship between the claimed drying and thermal treatment steps, much less the advantages obtained thereby. Second, JP '103 discloses a foamable sodium percarbonate produced by treating sodium percarbonate at 110° - 135°C for 5 to 60 minutes in a rotary kiln-type heater, which temperature falls outside of the claimed range. Third, in the forgoing method disclosed by JP '103 the active oxygen content is reduced from a starting value of 13.8% to a final product value of 12.3% (see Example 1).

In contrast, to the disclosure of JP '103, the present invention provides a method of reducing the TAM-value while maintaining the active oxygen content. Such a method would not be obvious in view of the disclosure of JP '103.

Therefore, for the foregoing reasons Applicants request withdrawal of this ground of rejection.

The rejections of Claim 20 under 35 U.S.C. §102(b) over Mohr '148 and EP 487,256, as well as the rejection of Claim 20 under 35 U.S.C. §103(a) over Kegelhart '663, are

obviated by the cancellation of Claim 20. Applicants request that the cancellation of Claim 20 be without prejudice toward prosecution in a later filed continuation application.

Applicants wish to note the following with respect to the disclosure of Kegelhart '663. Kegelhart '663 disclose drying of wet sodium percarbonate particles at a temperature of from about 55°C to about 80°C (see Claim 1 and column 3, lines 14-16). However, Kegelhart '663 provides no disclosure or suggestion to perform a heat treatment step subsequent to a drying step. In contrast, the present invention requires "a thermal treatment of sodium percarbonate *immediately following* a drying step subsequent to a production process of sodium percarbonate" (see Claim 1 and Claim 11; emphasis added). The reason for such an intimate relationship between the thermal treatment and drying step is to improve the product quality (i.e., reduction of the TAM-value), while maintaining the active oxygen content virtually constant. These results obtained by the inventive process are demonstrated by reference to Examples 1-4 on page 12. Examples 1-4 each provide the desired reduction of the TAM-value and constant active oxygen content, whereas the starting material has a high TAM-value, while Example 5 (T = 100 °C) provides a low TAM-value but results in a reduction in active oxygen content. Such a result would certainly not be obvious in view of the disclosure of Kegelhart '663.

Acknowledgement that these grounds of rejection are withdrawn in requested.

The rejection of Claim 20 under 35 U.S.C. §112, second paragraph, is obviated by the cancellation of Claim 20. Applicants request that the cancellation of Claim 20 be without prejudice toward prosecution in a later filed continuation application.

Acknowledgement that this ground of rejection is withdrawn in requested.

Applicants submit that the present application is now in condition for allowance.

Early notification of such action is earnestly solicited.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Norman F. Oblon
Attorney of Record
Registration No. 24,618

Vincent K. Shier, Ph.D.
Registration No. 50,552



22850

(703) 413-3000
Fax #: (703) 413-2220
NFO/VKS